

EXECUTIVE SUMMARY

INTRODUCTION

Equilon Enterprises LLC, dba (doing business as) Shell Oil Products US (Applicant or Shell) is the owner and operator of the Shell Martinez Marine Oil Terminal (Shell Terminal) located adjacent to the Shell Martinez Refinery (Refinery) in Contra Costa County, as shown in Figure ES-1. The Shell Terminal and Refinery have operated at their current locations since 1915. The Terminal is on sovereign land leased from the California State Lands Commission (CSLC), with upland storage facilities located on private land. The CSLC is considering an application for a new 30-year lease of California sovereign lands to Shell for the Shell Terminal (Proposed Project). The CSLC has considered the current lease, PRC 4908, to be in "holdover" since at least 2009 (i.e., the Shell Terminal is continuing to operate under the terms of its existing lease while a decision on a new lease is pending). A new 30-year lease, if granted, would allow Shell to continue to operate its Shell Terminal through July 31, 2039.

The Project objective is to maintain the Refinery's operational viability by continuing current Shell Terminal operations. Without the use of the Shell Terminal, the Refinery would not be viable and would be shut down. The issuance of a new lease by the CSLC for the Shell Terminal is required for continued operation of the Refinery.

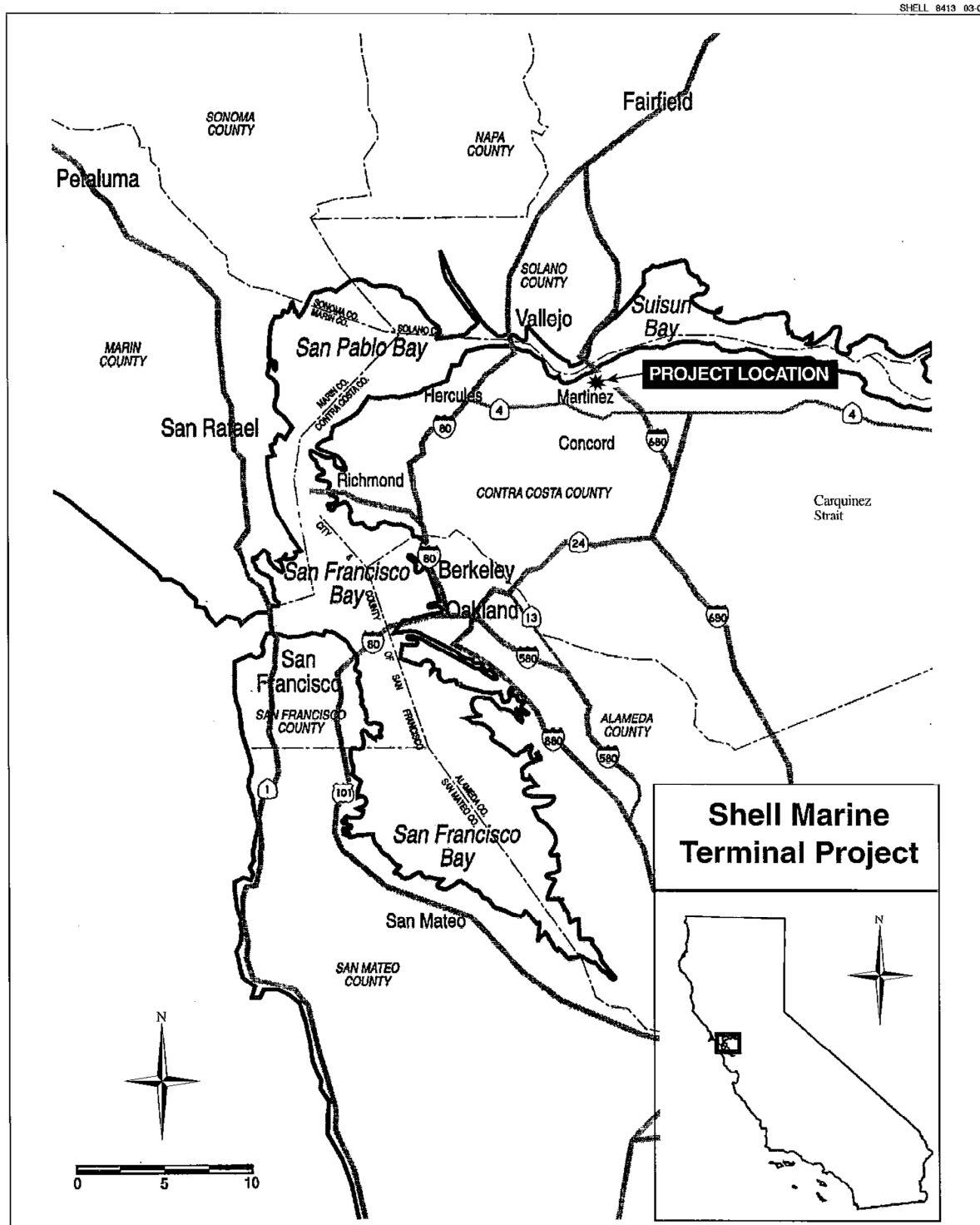
The CSLC is serving as Lead Agency responsible for preparing this Environmental Impact Report (EIR) in compliance with the California Environmental Quality Act (CEQA) to analyze the environmental impacts associated with operation of the Shell Terminal. Particular emphasis will be placed on oil transfer operations at the Shell Terminal, and vessel transit along shipping routes within Carquinez Strait, San Pablo and San Francisco Bays, and along the outer coast. The CSLC issued the current Shell Terminal lease before CEQA became law, and to date no CEQA analysis of Terminal operations has been conducted. This EIR will provide the CSLC the information required to exercise its jurisdictional responsibilities for the proposed new lease.

DESCRIPTION OF PROPOSED PROJECT

The Shell Terminal facility consists of an approximate 28-acre footprint of state-owned sovereign land leased from the CSLC as a barge and tanker transfer facility for crude oil and petroleum products. The Shell Terminal is capable of operating 365 days a year, 24 hours a day, although actual operation depends on shipping demands. The Shell Terminal supports the Shell Refinery, located immediately south of the Shell Terminal on 850 acres of Shell-owned (Upland) property.

The T-shaped Shell Terminal (see Figure 2.3-1) consists of a ~~4,950~~ 1,850-foot long, average ~~40-150~~-foot wide, concrete wharf connected to shore by a 1,900-foot long, 16-foot wide, elevated wooden approach roadway. A 40-foot-wide pile-supported pipe rack parallels the approach roadway.

1 **Figure ES-1. Project Vicinity Map**



**SHELL MARINE OIL TERMINAL
PROJECT VICINITY MAP
Figure ES-1**

The Shell Terminal has four berths – two berths (#1 and #2) on the outer (north) side, and two berths (#3 and #4) on the inner (south) side – equipped with pumps, pipelines, electrical utilities and other mechanical equipment. The terminal can moor tankers up to 1,000-feet in length at one of the outer berths, while also simultaneously mooring a smaller vessel. The inner berths currently are not in use, due to accumulated silt.

~~Maximum throughput is based on Shell's Bay Area Air Quality Management District (BAAQMD) Title V Permit to Operate for the Refinery and the Marine Terminal. Terminal throughput ranges from 17,000,000 bpy (current) to 27,000,000 bpy (anticipated maximum). Annual ship and barge traffic currently averages 265 vessels per year. Future estimates are 260 to 330 vessels per year. Future increases are based on increased crude oil receipts.~~ Vessel (ship and barge) traffic and throughput volumes at the Shell Terminal are summarized below.

- Shell records indicate that, during the 1994 to 2004 period, the Shell Terminal handled as many as 420 annual vessel calls (ships and barges) at a volume of 48,300,000 barrels per year (bpy).
- Annual ship and barge traffic currently averages 265 vessels per year. Terminal throughput ranges from 17,000,000 bpy to an anticipated maximum of 27,000,000 bpy.
- The maximum capacity that the Shell Terminal could handle is 50,000,000 bpy. Maximum throughput is based on Shell's Bay Area Air Quality Management District (BAAQMD) Title V Permit to Operate (PTO) for the Shell Refinery and Terminal.
- Future estimates are 260 to 330 vessels per year, with increases expected from crude oil shipments rather than product deliveries. Future deliveries are expected to be via larger crude transport vessels, thus reducing the number of annual vessel calls. ~~Shell estimates that future vessel traffic could reach up to 330 ships and barges per year. This anticipated range is based on increased Shell Terminal use via increased crude oil receipts rather than product deliveries. At this time, Shell does not have any immediate plans to modify the Shell Terminal over the 30-year term of the proposed lease, other than possibly to dredge and use the currently inactive Berths # 3 and # 4.~~

~~This number for vessel calls served the basis for t~~ The impact analysis in Section 4, Existing Environment and Impacts Analysis, of this EIR is based on 330 vessel calls, assuming no new Shell Terminal construction. Shell has no immediate plans to modify the Shell Terminal over the 30-year term of the proposed lease.

ENVIRONMENTAL IMPACTS AND MITIGATION

This EIR includes a detailed evaluation of the potentially significant environmental effects that could result from implementation of the proposed Project, including operational safety/risk of accidents; marine biological resources; water quality; commercial and sports fishing; land use and recreation; air quality; noise; transportation;

geology and soils/structural stability; cultural resources; socioeconomics, and environmental justice. The EIR also includes a program for reporting and monitoring the implementation of any mitigation measures (MMs) identified to reduce potential Project-related significant impacts; a Mitigation Monitoring Program (MMP) is presented in EIR Section 6.0. Table ES-1 presents a summary of potential impacts and mitigation measures for associated with the proposed Project and Project Alternatives.¹ This table is presented EIR Sections 4 and 6.0 are organized by the environmental issue areas listed below.

- Operational Safety/Risk of Accidents (EIR Section 4.1)
- Water Quality (Section 4.2)
- Biological Resources (Section 4.3)
- Commercial and Sports Fisheries (Section 4.4)
- Land Use/Recreation (Section 4.5)
- Air Quality (Section 4.6)
- Noise (Section 4.7)
- Vehicular and Rail Transportation (Section 4.8)
- Visual Resources/Light and Glare (Section 4.9)
- Cultural Resources (Section 4.10)
- Geological Resources/Structural Integrity Review (Section 4.11)
- Environmental Justice (Section 4.12)

Within each issue area, each impact is described and classified, and recommended mitigation is presented. Impacts are classified as:

- **Class I** (significant adverse impact that remains significant after mitigation);
- **Class II** (significant adverse impact that can be eliminated or reduced below an issue's significance criteria);
- **Class III** (adverse impact that does not meet or exceed an issue's significance criteria); or
- **Class IV** (beneficial impact).

SUMMARY OF MAJOR POTENTIAL IMPACTS OF THE PROJECT

Potential impacts associated with small oil leaks and spills at the Shell Terminal are addressed in part through compliance with the CSLC's The Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) ~~were proposed by CSLC, which~~ were approved by the California Building Standards Commission on January 19, 2005, and became effective on February 6, 2006. The MOTEMS are codified in Title 24,

¹ The original Table ES-1 in the Draft EIR has been deleted in its entirety from this Final EIR since it would needlessly duplicate the information in Section 6.0, Mitigation Monitoring Program. (This Table summarized Project impacts and proposed mitigation measures, and was included in the Draft EIR so that the CSLC could submit a complete Executive Summary to the State Clearinghouse; however, information in Table ES-1 was repeated in Section 6.0.) Table ES-2 in the Draft EIR is now Table ES-1 in the Final EIR.

California Code of Regulations (CCR) Title 24, Part 2, California Building Code (CBC), Chapter 31F—Marine Oil Terminals (24 CCR § 3101F et seq.). Operators/owners of facilities deemed “high risk”, such as the Shell Terminal, must complete the listed tasks within 30 months of the enactment date, i.e., by August 2008., to complete the initial audit process. The standards apply to all existing and new marine oil terminals (MOTs) in California, and include criteria for inspection, structural analysis and design, mooring and berthing, geotechnical considerations (a seismic and structural assessment, based on current seismic criteria), and analysis and review of the fire, piping, mechanical and electrical systems. ~~Because Shell must comply with these standards, the resultant risk of small oil leaks and spills is minimized.~~

The MOTEMS require each MOT operator (such as Shell) to conduct an audit to determine the level of compliance and an evaluation of the continuing fitness-for-purpose of the facility, and submit the results to the CSLC’s Marine Facilities Division (MFD) for review and approval. Depending on the results, operators must then determine what actions are required, and provide a schedule for implementation of deficiency corrections and/or rehabilitation. The schedule must be mutually agreeable between the CSLC and operator.

The Shell Terminal is subject to the MOTEMS, and Shell completed its initial audit in August, 2008. A topsides update is due in August, 2011. The MOTEMS audit process, including above and below the water line inspections, maintenance of all equipment, and new/updated analyses (e.g., should Shell propose to bring in larger vessels or make significant changes to the structure and/or ancillary equipment) will continue throughout the life of the Project. Above water inspections are due every three years, and underwater inspections are required every three to six years, depending on the results of the previous audit. A discussion of the results of Shell’s initial audit can be found in Section 2, Description of the Proposed Project, of this EIR.

Still, moderate or large spills may originate from the Shell Terminal due to natural factors (earthquake or tsunami), human error (berth collision, bad hose connection), or from a vessel moored at the terminal or transiting the tanker lanes in the Bay or along the outer coast. While the risk of moderate to large spills is small, the potential for impacts is significant for many environmental areas. The fate of spilled oil in the marine environment is determined by a variety of complex and interrelated physical, chemical, and biological transformations. Moderate to severe oil spills can result in impacts to water quality, marine biology, commercial and sport fisheries, shoreline land uses, shoreline and water recreational uses, and visual quality of surface water and shorelines. ~~The impacts and mitigation measures are presented in Table ES-4.~~

Significant adverse impacts can also occur from releases of viruses, toxic algae or other harmful microorganisms in a vessel’s ballast water. The introduction of exotic species via ship’s ballast water has severely disturbed the aquatic communities of San Francisco Bay. Ballast water discharge that contains non-indigenous organisms (invasive species) could impair several of the Project area’s beneficial uses, including commercial and sport fishing, estuarine habitat, fish migration, preservation of rare and

1 endangered species, water contact recreation, non-contact water recreation, fish
2 spawning, and wildlife habitat. ~~Significant adverse impacts can occur from releases of~~
3 ~~viruses, toxic algae or other harmful microorganisms. The impacts and mitigation~~
4 ~~measures are presented in Table ES-1.~~

6 **ALTERNATIVES TO PROPOSED PROJECT**

8 The CEQA requires consideration of a range of reasonable alternatives to the project or
9 project location that: (1) could feasibly attain most of the basic project objectives; and
10 (2) would avoid or substantially lessen any of the significant impacts of the proposed
11 Project. An alternative cannot be eliminated simply because it is more costly or if it
12 could impede the attainment of all project objectives to some degree. However, the
13 State CEQA Guidelines declare that an EIR need not consider an alternative whose
14 effects cannot be reasonably ascertained and whose implementation is remote or
15 speculative. The CEQA requires that an EIR include sufficient information about each
16 alternative to allow meaningful evaluation, analysis, and comparison with the proposed
17 Project.

19 The screening analysis does not focus on relative economic factors (as long as they are
20 feasible) since the State CEQA Guidelines require consideration of alternatives capable
21 of eliminating or reducing significant environmental effects even though they may
22 “impede to some degree the attainment of project objectives or would be more costly.”
23 Likewise, the question of market demand or project need is not considered.

25 It should be noted that the EIR analysis included alternatives that potentially would
26 result in greater environmental impacts to some issue areas, or would transfer a similar
27 level of environmental impacts to other existing marine oil terminal facilities, as
28 compared with the proposed Project. These alternatives have been included for
29 analysis to demonstrate that, regardless of lease renewal, similar levels of impacts may
30 occur in meeting the refining needs of the Bay area region by increased activities at
31 other Bay area marine terminals and associated refineries.

33 ~~If the CSLC refused to grant~~ denied Shell a new lease for the land on which the Shell
34 Terminal is located, Shell would not be able to support the operation of the Refinery. All
35 considered alternatives meet the project objective of maintaining the viability of the
36 Refinery, which includes the transportation of feed stocks and refined products at
37 current throughput levels, but do not necessarily involve use of the Shell Terminal.

39 **No Project Alternative**

41 Under the No Project Alternative, Shell’s lease would not be renewed and the existing
42 Shell Terminal would be subsequently decommissioned with its components abandoned
43 in place, removed, or a combination thereof. The decommissioning of the Shell Terminal
44 would be governed by a Lease Termination and Abandonment Agreement.

Under the No Project Alternative, an alternative means of crude oil/product transport would need to be in place prior to the decommissioning of the Shell Terminal, or the operation of the Shell Refinery would cease production, at least temporarily. It is more likely, however, that under the No Project Alternative, Shell would pursue alternative means of traditional crude oil transport such as a pipeline conveyance or use of a different (another operator's) marine oil terminal. Accordingly, the potential environmental impacts of these alternatives are described and analyzed in this EIR. For the purposes of this EIR, it has been assumed that the No Project Alternative would result in a decommissioning schedule that would consider implementation of one of the described transportation alternatives. Any future crude oil or product transport alternative would require a subsequent application to the CSLC and other agencies having jurisdiction, depending on the proposed alternative.

Decommissioning, abandonment, and/or deconstruction of the wharf or any other proposed reuse of the wharf would require a separate CEQA review. Since details associated with decommissioning, abandonment, and/or deconstruction would need to be developed if they were to occur, for the purposes of this EIR, impacts are discussed only briefly.

Full Throughput Alternative

The Shell Refinery is part of the greater Bay Area refining industry, and the future demand for crude oil at the nearby refineries is not expected to decrease. ~~With no Shell marine oil terminal (MOT), this alternative assumes that there would be no Shell Terminal wharf to receive crude or transport product and, therefore, that Shell Refinery operations would be dependent on crude oil receipts through pipelines via connected to other Bay Area MOTs. This would be required to continue to meet regional refining demands. Required modifications of the existing terminals would be subject to substantial environmental review and local permitting, thus is considered briefly within the resources analyses in Section 4.0 of this Environmental Impact Report (EIR). This alternative assumes that, with no Shell MOT wharf to receive crude or transport product, pipelines connected to other Bay Area terminals would be used to provide the daily throughput capacity to the Shell Refinery and meet regional refining demands. This could occur through several sources:~~

- Shell currently transfers some petroleum through the nearby ~~Pacific Atlantic Plains Product Terminals LLC~~ (formerly Shore and Pacific Atlantic) Terminals (a storage only facility) via pipeline. There may be some ability to increase storage capacity at the ~~Pacific Atlantic Plains Product Terminals LLC~~ facility and transfer petroleum to the Shell Refinery.
- Shell has two San Joaquin Valley pipelines in which it leases capacity for transfers from other Bay Area refiners. As a partial solution, if the Shell Terminal were inoperable, the Shell Refinery may be able to increase use of these pipelines, expand existing storage capacity at other refiners, or increase pipeline capacity.

- Shell ~~recently has~~ purchased a pipeline that goes from the Richmond area to Antioch via Martinez. Currently, the Richmond pipeline terminates at a demolished wharf facility. However, a portion of this pipeline, in combination with new pipelines could connect other Bay Area terminals with the Shell Refinery.

Construction of new or modified pipelines would be required to equal the projected maximum of 50,000,000 bpy (137,000 barrels per day [bpd]) of crude receipts through the Shell Terminal to the Shell Refinery. Pipelines capable of handling this capacity may be viable from an environmental perspective.

Any required modifications to other existing Bay Area MOTs would require substantial environmental review and local permitting. ~~However, p~~Prior to construction and use of any new pipelines, lengthy and complex regulatory processes, land availability and obtainment of easements or rights-of-way would also be required, and environmental review and local permitting would be conducted. Since modification specifics are assumed on a general basis, brief analyses are presented in Section 4.0 of this EIR.

COMPARISON OF PROPOSED PROJECT AND ALTERNATIVES

The State CEQA Guidelines (§section 15126.6 (d)) require that an EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. Table ES-12 provides a comparison of the Proposed Project with each of the alternatives evaluated in this document, including the No Project Alternative.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

~~The State CEQA Guidelines [section 15126.6 (d)] require that an EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Project. The State Guidelines §section 15126.6 (e)(2) further states: in part,~~

The "no project" analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." (Emphasis added.)-

The No Project Alternative eliminates impacts from the Shell Terminal; however, implementation of this alternative would shift similar levels of impact to other Bay area marine oil terminals that would make up the differential for crude oil and product transport throughout the Bay. ~~Thus, b~~By eliminating impacts of Shell Terminal operations at the Refinery, the No Project Alternative is appears to be environmentally

superior, ~~with the exception of~~ but actually has significant impacts to the operational viability of the Refinery without a method of crude oil and product transport, and to the remaining marine oil terminals that would have to accept the product that is now being delivered to the Shell Terminal. Hence, the No Project Alternative would not meet the Project objective of maintaining Refinery operational viability and potentially transfers similar direct impacts to other Bay area marine oil terminals.

The Full Throughput Alternative would eliminate operations and impacts at the Shell Terminal. This alternative results in the transfer of similar Class I and II impacts of the proposed Project to the other Bay area terminals. Similar impacts include operational safety/risk of accidents, water quality, biological resources, commercial and sports fisheries, land use/recreation, air quality, noise, and visual resources, structural integrity and environmental justice. Construction of pipelines between these terminals and the Shell Refinery would have the potential for Class I or II on-land spills/leaks, but with the potential for less overall severity than spills into the marine environment.

Under this alternative, the capacity of other marine terminals may be taxed, potentially increasing vessel congestion and collisions (as well as ~~the costs~~) while vessels wait to berth and offload/load.

Because the Full Throughput Alternative simply moves impacts from the Shell Terminal to the locations of other terminals, and has the added potential for on land pipeline spills, it is considered to represent a greater potential adverse environmental impact than the ~~p~~Proposed Project.

The Full Throughput Alternative is the only alternative that meets the Project objective of maintaining Refinery operational viability. The Full Throughput Alternative does not represent a greater environmental benefit as that of the Proposed Project. ~~When only one alternative to the Proposed Project is evaluated, identification of an environmentally superior alternative is not required.~~

The comparison between the proposed Project and the alternatives is presented in Table ES-12 for those impacts remaining significant after incorporation of mitigation measures.

KNOWN AREAS OF CONTROVERSY OR UNRESOLVED ISSUES

~~There are no known areas of controversy surrounding the proposed Project. No objections to the proposed Project were raised at the public scoping meeting and no correspondence has been received challenging the project or its potential environmental effects.~~ The comments received during the Notice of Preparation and Draft EIR public comment periods raised issues related to impacts to water quality, biological resources, air quality, siltation, sediment suspension, emergency response, and length of the CSLC lease to Shell.

SUMMARY OF ENVIRONMENTAL IMPACTS FOR PROPOSED PROJECT AND ALTERNATIVES

Table ES-12 provides a summary of environmental impacts for both the proposed Project and Project alternatives. As described above, Impact classes used in this table are as follows

- I = Significant adverse impact that remains significant after mitigation.
- II = Significant adverse impact that can be eliminated or reduced below an issue's significance criteria.
- III = Adverse impact that does not meet or exceed an issue's significance criteria.
- IV = Beneficial impact.
- ~~NA = Not Applicable to the Shell Terminal.~~ The Full Throughput Alternative ~~M~~may transfer similar impact(s) to other area terminals.

Alt 1: Full Throughput Alternative

Table ES-12. Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description <u>Summary</u>	Proposed Project	No Project	<u>Full Throughput Alternative</u> ¹
OPERATIONAL SAFETY/RISK OF UPSET/ACCIDENTS				
OS-1	<u>Deck Drainage System.</u> There are some d Deficiencies with the existing deck drainage system or procedures that wcould pose a risk for, or increase the potential for spills at the Terminal from routine operations. Preventative maintenance and operational equipment is <u>are</u> required by the MOTEMS, and impacts are adverse, but less than significant (Class III).	III	IV	NA <u>III</u>
OS-2	<u>Gasoline and Other Highly Volatile Product Releases.</u> Potential impacts to public safety from a highly volatile product release are less than significant (Class III) since the liquids disperse quickly.	III	IV	NA <u>III</u>
OS-3	<u>Spills and Response Capability for Containment of Class I-IV Oil Spills During Transfer Operations.</u> Shell's response capability for containment of spills during transfer operations be <u>would still result in adverse and significant impacts for spills greater than 50 barrels (bbls), and range from spills that can be contained during first response efforts with rapid cleanup (Class II), to those complex spills that result in a significant impact (Class I) with residual effects after mitigation.</u>	I or II	IV	NA <u>I or II</u>
OS-4	<u>Group V Oils.</u> Group V oils have a specific gravity greater than 1 and do not float on the water; instead, they will sink below the surface into the water column or possibly to the bottom. Shell does not identify the types of oils by Group which they <u>it</u> handles in their <u>its</u> Oil Spill Response Manual nor does Shell they discuss response capabilities by Group. Shell handles asphalt and other products which may be Group V oils. If this is the case, a release of a Group V oil could result in significant impacts (Class I).	I	IV	NA <u>I</u>

Table ES-12. Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description <u>Summary</u>	Proposed Project	No Project	<u>Full Throughput Alternative</u> ⁴
OPERATIONAL SAFETY/RISK OF ACCIDENTS (continued)				
OS-5	<u>Terminal Spills from Pipelines during Non-Transfer Periods.</u> Spills from the Terminal during non-transfer periods would <u>most likely</u> be associated with pipelines. Shell is required to comply with the MOTEMS, and impacts are considered adverse, but less than significant (Class III).	III	IV	NA-III
OS-6	<u>Fires and Explosions and Response Capability.</u> Residential areas are beyond the hazard footprint boundary; however, there is an extremely small probability that the Martinez Marina could be impacted by a tanker explosion. Because of the extremely low probability of this event, it is concluded that fires and explosions would not cause a public safety risk (Class III). However, a major fire at the Terminal could result in a significant oil spill. Hence, a significant adverse impact (Class II) has been identified.	II or III	IV	NA-II or III
OS-7	<u>Response Capability for Accidents in Bay/Outer Coast.</u> Spills from accidents in the Bay could result in impacts to water quality or biological resources that could be significant <u>and</u> adverse (Class II) impacts for these spills that can be contained during first response efforts; or significant adverse impacts (Class I) that would have residual impacts. While Shell does not have legal responsibility for tankers it does not own, it does have responsibility to participate in improving general response capabilities.	I or II	IV	NA-I or II
WATER QUALITY				
WQ-1	<u>Sediment Disturbance to Water Quality from Vessel Maneuvers.</u> Disturbed sediments could cause a brief, localized increase in turbidity and depression in dissolved oxygen concentrations, but would disperse rapidly with the strong tidal currents in the area, and be rapidly mitigated by tidal mixing with Bay waters of high dissolved oxygen concentration. Such events would occur for an hour or less during a 24-hour period and be limited to the immediate vicinity of the Terminal, thus increased turbidity due to vessel traffic would be adverse, but less than significant (Class III).	III	IV	NA-III
WQ-2	<u>Segregated Ballast Water.</u> Discharge of ballast water that contains harmful micro organisms could impair several of the project area's beneficial uses, including commercial and sport fishing, estuarine habitat, fish migration, preservation of rare and endangered species, water contact recreation, non-contact water recreation, fish spawning, and wildlife habitat. Therefore discharge of segregated ballast water is determined to have a potentially significant impact to water quality (Class I).	I	IV	NA-I
WQ-3	<u>Cooling Water.</u> The impact of cooling water discharges on water quality would be adverse, but less than significant (Class III) as the increase in water temperature of the Bay would be negligible and would not exceed limitations set forth in the California Thermal Plan.	III	IV	NA-III

Table ES-12. Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description Summary	Proposed Project	No Project	Full Throughput Alternative ⁴
WATER QUALITY (continued)				
WQ-4	Non-Segregated Ballast Water. Non-segregated ballast water that is sent to the treatment facility may include nonindigenous organisms. Treatment at the facility does not include any specific procedures to prevent organisms that may be in ballast water from being discharged to Bay waters. Discharge of harmful microorganisms would be a significant adverse impact (Class II).	II	IV	NA-II
WQ-5	Other Liquid Wastes. Spills of sanitary wastewater, cargo tank washwater or bilge water could degrade water quality and many spills would constitute chronic long-term degradation of water quality, resulting in a significant adverse impact (Class II).	II	IV	NA-II
WQ-6	Cathodic Protection. The slow leaching of zinc anodes may increase metal concentrations, but due to the slow rate of exchange of the anodes to seawater, the impact of cathodic protection on water quality is adverse, but less than significant (Class III).	III	IV	NA-III
WQ-7	Anti-Fouling Paints. Use by marine vessels of anti-fouling paints containing copper, sodium, zinc, and tributyltin (TBT) is considered toxic and presents a significant adverse impact to water quality that cannot be mitigated to less than significant (Class I).	I	IV	NA-I
WQ-8	Tanker Maintenance. Routine vessel maintenance would have the potential to degrade water quality due to chronic spills during transfers of lubricating oils, resulting in adverse significant (Class II) impacts.	II	IV	NA-II
WQ-9	Stormwater Runoff from Wharf. Stormwater runoff from the Terminal may contribute pollutants to the Bay in concentrations that may adversely affect some benthic species within the local area, resulting in a significant adverse impact (Class II) to water quality.	II	IV	NA-II
WQ-10	Maintenance Dredging. The effects of dredging and dredged material disposal on water quality are regulated and subject to acquisition of a dredging permit prior to dredging, thus impacts on water quality are adverse, but less than significant (Class III).	III	IV	NA-III
WQ-11	Oil and Product Leaks and Spills. Potential impacts on water quality can result from leaks or spills. Small leaks or spills (less than 50 bbl) related to Terminal operations could result in significant (Class II) impacts, while large spills (greater than 50 bbl) could result in significant adverse (Class I) impacts.	I or II	IV	NA-I or II
WQ-12	Accidental Spills from Vessels in Transit in Bay/Along Outer Coast. A significant impact to water quality (Class I) could result from leaks or an accidental spill of crude oil or oil product from a vessel spill along tanker routes either in San Francisco Bay or outer coast waters.	I or II	IV	NA-I or II
BIOLOGICAL RESOURCES				
BIO-1	Noise Disturbance on Fishes and Birds from Vessel Traffic Movements. Ship traffic associated with Terminal terminal operations represents an incremental amount compared to the background noise of ship traffic in San Francisco Bay and along outer coast tanker routes, thus disturbance to fishes from routine operations at the terminal are less than significant impacts (Class III). Birds local to the terminal have adapted to vessel traffic, and impacts are less than significant (Class III).	III	IV	NA-III

Table ES-12. Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description <u>Summary</u>	Proposed Project	No Project	<u>Full Throughput Alternative</u> ⁴
BIOLOGICAL RESOURCES (continued)				
BIO-2	<u>Sediment Disturbance to Benthic Habitat from Vessel Maneuvers.</u> The area near the Terminal berths where propeller wash and bow thrusters may disturb sediments is very small compared to the amount of benthic habitat in the Project study area, and impacts of tanker sediment turbulence on benthic communities are adverse but less than significant (Class III).	III	IV	NA-III
BIO-3	<u>Maintenance Dredging.</u> Loss of juvenile Dungeness crabs and young Chinook salmon would be a significant, adverse impact because dredging at the time when juveniles are moving through the area could disrupt the migration patterns of these species (Class II). Because of the low volume of material dredged, impacts are adverse, but less than significant (Class III) to plankton, other benthos, other fishes, and birds.	II or III	IV	NA-II or III
BIO-4	<u>Introduction of Nonindigenous Species.</u> Invasive organisms/introduction of non-indigenous species in segregated ballast water released in the Bay or from vessel biofouling could have significant (Class I) impacts to plankton, benthos, fishes, and birds.	I	IV	NA-I
BIO-5	<u>Contaminants (Routine Operations).</u> Contaminant inputs into the water from Terminal operations are low when compared to other pollutant sources in the Bay. The impacts on plankton, benthos, fishes, and birds are considered adverse, but less than significant (Class III).	III	IV	NA-III
BIO-6	<u>Oil Spills.</u> The impacts of a spill on the biota at or near the Terminal have the potential to spread through Carquinez Strait and into Suisun and San Pablo Bays. Vulnerable biota are plankton, benthos, eelgrass, fishes, marshes, birds, and mammals. Per Section 4.1, Operational Safety/Risk of Accidents, small spills at the Terminal (less than 50 bbls) should be able to be contained (Class II). However, spills larger than 50 bbls may not be able to be contained and Shell may not have adequate boom to protect all the sensitive areas at the most risk that could be oiled within 3 hours of a spill from the Terminal. Impacts from large spills are considered to be significant adverse (Class I).	I or II	IV	NA-I or II
BIO-7	<u>Accidental Spills from Vessels in Transit in Bay/Along Outer Coast.</u> A significant impact to biological resources (Class I or II) could result from spills of crude oil or product from a vessel in transit along tanker routes either in San Francisco Bay or outer coast waters.	I or II	IV	NA-I or II
COMMERCIAL AND SPORTS FISHERIES				
FSH-1	<u>Space Use Conflicts (Fisheries/Terminal Operations).</u> Commercial trawling near the Terminal is limited, although the Carquinez Strait shrimp fishery is located in the direct vicinity of the Terminal. Based on the impact significance criteria, space use impacts on the shrimp fishery are expected to continue to be <u>potentially significant</u> and Class II. However, no shoreline fishing occurs within 0.5 mile of the Terminal and charter boat landings are light, when compared with the Bay, as a whole. Space use conflicts between sport fishing and continuing Terminal activities are considered to be less than significant (Class III).	II or III	IV	NA-II or III

Table ES-12. Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description <u>Summary</u>	Proposed Project	No Project	<u>Full Throughput Alternative</u> ⁴
COMMERCIAL AND SPORTS FISHERIES (continued)				
FSH-2	<u>Ballast Water Discharge.</u> Fisheries depend on a healthy environment to survive and flourish. Invasive species discharged from ballast water could impair water quality (Impact WQ-2) and biological resources (Impact BIO-4). These impacts to fisheries resources would impair commercial and sports fishing activities in the Bay and outer coast, resulting in significant adverse impacts (Class I).	I	IV	NA-I
FSH-3	<u>Contamination from Stormwater Runoff from the Terminal and Vessel Hull Anti-Fouling Paints.</u> Shell routine operations contribute to contamination of waters near the Terminal, but impacts on sport and commercial fisheries are expected to be adverse, but less than significant (Class III).	III	IV	NA-III
FSH-4	<u>New Dredging at Berths #3 and #4.</u> Over the 30-year lease, Shell may dredge Berths # 3 and # 4 to accommodate more vessels. This dredging is expected to cause significant, but mitigable, impacts on fish habitat (Class II).	II	IV	NA-II
FSH-5	<u>Space Use Conflicts (Bay Shrimp Fishery/Transiting Vessels).</u> Space use conflicts between transiting vessels serving the Terminal and shrimp trawling is expected to be significant (Class II) due to temporary, but ongoing, blocking of trawl grounds while vessels transit through the Carquinez Strait.	II	IV	NA-II
FSH-6	<u>Space Use Conflicts (Bay Herring Fishery/Transiting Vessels).</u> Space use conflicts between transiting vessels serving the Terminal and commercial herring operators could occur resulting in interference or displacement of herring fishing activities. A significant impact could result (Class II).	II	IV	NA-II
FSH-7	<u>Conflicts (Transiting Vessels/Bay Sport Fisheries/ Martinez Marina Operations).</u> Space use conflicts between sport fisheries in the Bay and transiting vessels serving the Terminal are significant (Class II). Vessels transiting to and from the Terminal do not contribute to siltation of the Martinez Marina, and are considered adverse, but less than significant (Class III).	II or III	IV	NA-II or III
FSH-8	<u>Space Use Conflicts (Fisheries Along Outer Coast/Transiting Vessels).</u> Vessel operators handling crude oil and product may affect commercial or recreational fishing; space use conflicts are expected to be adverse, but less than significant (Class III).	III	IV	NA-III
FSH-9	<u>Accidental Spills at Terminal/Along Bay Transit Routes.</u> Shrimp, herring and sport fisheries in central and north San Francisco Bay, San Pablo Bay, Carquinez Strait, Napa River and Honker Bay are at highest risk of spill contamination. Depending on spill location, size and water and weather conditions, areas upstream of the confluence of the Sacramento and San Joaquin rivers may also suffer harm. In addition, the Bay marinas, launch ramps and fishing access points may be threatened, contaminated or closed. Significant adverse impacts (Class I and II) to Bay commercial and sport fisheries would result from oil spill accidents originating at the Terminal or from tankers transiting the coast that service the Terminal.	I and II	IV	NA-I and II

Table ES-12. Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description Summary	Proposed Project	No Project	Full Throughput Alternative ⁴
COMMERCIAL AND SPORTS FISHERIES (continued)				
FSH-10	Accidental Spills Along Outer Coast Transit Routes. Significant adverse impacts (Class I and II) to outer coast commercial and sport fisheries could result from oil spill accidents from transiting tankers calling at the Terminal. The level of impact would depend on the size of the spill, location, and fisheries occurring in the area of spread of the spill.	I and II	IV	NA-I and II
LAND USE AND RECREATION				
LU-1	Conflicts with Existing or Future Planned Area-Wide or Local Policy Issues or Plans. The proposed Project would not conflict with any existing or future planned policy issues or plans. Proposed Project impacts with regard to policy inconsistency would be less than significant (Class III).	III	IV	NA-III
LU-2	Incompatible Adjacent Recreational Land Uses. The proposed Project would be compatible with adjacent and proximate land uses. Therefore, physical land use adverse impacts resulting from the proposed Project would be less than significant (Class III).	III	IV	NA-III
LU-3	Accidental Releases at or Near the Terminal. A number of recreational facilities (designated parks, wildlife preserves, open space, etc.) and recreational uses (nature viewing, boating, fishing, surfing, etc.) are within the potential area that could be impacted by the spread of oil. Shoreline and water-related uses would be disrupted by oil on the shoreline and in the water and could result in significant adverse (Class I or II) impacts.	I or II	IV	NA-I or II
LU-4	Oil Spills from Vessels in Transit. Spills, from vessels in transit in the shipping lanes, that beach along sensitive land use areas or heavily used areas including recreational areas would limit or preclude such uses and result in significant adverse (Class I or II) impacts, depending on the various characteristics of a spill and its residual effects.	I or II	IV	NA-I or II
AIR QUALITY				
AQ-1	Existing Operations' Consistency with the Applicable Air Quality Plans. Measured and calculated criteria pollutant emissions are below existing yearly BAAQMD permitted levels. Continued operation of the Terminal at current throughput levels would not result in significant air quality emissions impacts (Class III). Since the facility is already operational, worker commute emissions are already part of ambient conditions, thus non-permitted emissions impacts are adverse, but not significant.	III	IV	NA-III
AQ-2	Future Operations' Consistency with the Applicable Air Quality Plans. Over the life of the lease, the anticipated vessel increase from 196 to 330 vessels per year would not exceed the limitations of the REFEMS Cap, and the impact is adverse, but less than significant (Class III).	III	IV	NA-III

Table ES-12. Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description Summary	Proposed Project	No Project	Full Throughput Alternative ⁴
AIR QUALITY (continued)				
AQ-3	Dredging Operations (Future Operations). Dredging activities represent short-term emissions associated with the “construction” of a deeper channel, and are not subject to the day-to-day operations’ criteria so long as all PM ₁₀ suppression methods included in the <i>BAAQMD CEQA Guidelines</i> are administered. No fugitive dust emissions are raised during the dredging of wet sediment and none of the measures address PM ₁₀ associated with exhaust. As such, construction emissions associated with short-term dredging are adverse, but less than significant (Class III).	III	IV	NA-III
AQ-4	Expose Sensitive Receptors to Substantial Pollutant Concentrations. The Terminal is in compliance with the BAAQMD permitting for hazardous and toxic pollutants. Impacts are adverse, but less than significant (Class III).	III	IV	NA-III
AQ-5	Create Objectionable Odors. No sensitive receptors are located in the immediate area and the Terminal does not emit odors that are/have been reported in the local area. Impacts are adverse, but less than significant (Class III).	III	IV	NA-III
AQ-6	Increase in Greenhouse Gas (GHG) Emissions. Measured and calculated GHG emissions are below 1995 baseline levels and below BAAQMD GHG thresholds. Continued operation of the Terminal at current throughput levels would not result in significant greenhouse gas emissions impacts (Class III). Since the facility is already operational, GHG emissions are already part of ambient conditions, GHG emissions impacts are adverse, but not significant.	III	IV	NA-III
NOISE				
N-1	Consistency with Local Standards, Noise Elements and Ordinances. Because the Terminal already exists, it is considered part of the ambient noise environment. While it is located in an industrial area, sensitive receptors are located within the City to the south. Over the lease period, no new sensitive receptors would be expected to be constructed proximate to the Terminal. Impacts would be less than significant (Class III).	III	IV	NA-III
N-2	Future Consistency with Local Standards, Noise Elements and Ordinances. Over the 30 years of the lease period, Terminal operations could increase from 196 to as many as 330 average annual ship and barge visits raising the current noise level. Impacts would be less than significant (Class III).	III	IV	NA-III
N-3	Substantial Permanent Increase in Ambient Noise Levels Above Levels Existing without Project. No substantial permanent increase in ambient noise levels in the Project vicinity above existing levels would occur from increased operations (stationary or mobile noise sources) over the 30-year lease period. Impacts would be less than significant (Class III).	III	IV	NA-III
N-4	Future Dredging Operations. To accommodate the increase in vessel traffic over the 30-year lease, the area in and around Berths # 3 and # 4 may require dredging.	III	IV	NA-III

Table ES-12. Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description Summary	Proposed Project	No Project	Full Throughput Alternative ⁴
VEHICULAR AND RAIL TRANSPORTATION				
TR-1	No Project Alternative - Effects on Vehicular Traffic With No New Terminal Lease. During construction associated with dismantling, a small amount of construction traffic may be associated with the effort (Class III impact). Decommissioning would eliminate the five trucks that normally provide services to the Terminal. This minor amount of truck removal from the local roadway would result in a less than significant impact (Class III).	NA	III	NA-III
TR-2	Full Throughput Alternative. To operate at its current capacity, pipeline delivery, potentially from both the Central Valley and Alaska, would be augmented with foreign crude piped over from other Bay Area marine oil terminals. So that Shell could continue operations uninterrupted, pipeline and booster pump construction would occur prior to Terminal abandonment. Construction would result in potentially significant (Class II) impacts along local roadways where pipeline installation would occur.	No	NA	NA-II
VISUAL RESOURCES/LIGHT AND GLARE				
VR-1	Routine Operations Over 30-Year Lease Period. Over the lease period, tankers would be berthed at the Terminal in a manner consistent with existing conditions. Over the lease period there could be additional berthings if Berths #3 and #4 are dredged and used for barges. However, as the primary view is from the Martinez Marina and Martinez Regional Shoreline, visual affects <u>effects</u> would remain similar to present conditions, and impacts are considered less than significant (Class III). The Terminal cannot be seen from Vista Marina Road, as views are obstructed by the Refinery. Visual impacts or night lighting impacts associated with continued operations are less than significant (Class III).	III	IV	NA-III
VR-2	Accidental Releases of Oil at/near Terminal. The visual impacts of a spill could last for a long period of time, depending on the level of physical impact and cleanup ability, and are considered to be adverse and significant (Class I or II).	I or II	IV	NA-I or II
VR-3	Oil Spills from Vessels in Transit. Spills, from vessels in transit in the shipping lanes, would change the color and texture of water and shoreline conditions. The level of public sensitivity and expectations of viewers would result in a negative impression of the viewshed and result in significant adverse (Class I or II) impacts, depending on the various characteristics of a spill and its residual effects.	I or II	IV	NA-I or II
CULTURAL RESOURCES				
CR-2	Full Throughput Alternative. Transferring of operations to existing terminals would not result in unmitigable cultural resources impacts (Class II). Construction of pipelines to transfer crude and product to the Shell Refinery would have the potential to impact cultural resources along the alignment and result in significant (Class II) impacts.	None	II or III	NA-II

Table ES-12. Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description Summary	Proposed Project	No Project	Full Throughput Alternative ⁴
GEOLOGICAL RESOURCES/STRUCTURAL INTEGRITY				
GEO-1	Ground Rupture. The Terminal is not located in the Alquist-Priolo earthquake fault zone. Surface rupture from known active faults is not anticipated, and impacts would be less than significant (Class III).	III	IV	NA-III
GEO-2	Groundshaking, Slope Stability and Seismically Induced Landslides. The impact of berth dredging, natural scour or accumulation of soil in steep slopes near or adjacent to Terminal wharf piles should be considered in soil-structure interaction. In addition, lateral spreading (downslope movement) resulting from any moderate earthquake may result in damage to the Terminal. Shell is required to comply with the MOTEMS and impacts are adverse, but less than significant (Class III).	III	IV	NA-III
GEO-3	Liquefaction and Seismically Induced Settlement. The site has not had a current industry standard liquefaction evaluation performed. As such, the potential for impacts from seismically induced settlement are unknown. Shell is required to comply with the MOTEMS and impacts are adverse, but less than significant (Class III).	III	IV	NA-III
GEO-4	Tsunami. Tsunamis would attenuate to minimal wave heights at the Terminal, and impacts are considered adverse, but less than significant (Class III).	III	IV	NA-III
GEO-5	Structural Damage and/or Failure of Terminal Structures due to Major Earthquake. No documentation was received indicating that the Terminal structures have been analyzed for the maximum credible earthquake as specified by the MOTEMS criteria. Consequently, the impacts of a major earthquake on the Terminal are unknown. Because Shell is required to comply with the MOTEMS, impacts are adverse, but less than significant (Class III).	III	IV	NA-III
GEO-6	Structural Damage to Terminal Due to Berthing Impacts of Vessels. No analysis has been provided for berthing larger vessels at the Terminal. Berthing of larger vessels may overload the fender system and overload the piling. Overloading the piling may result in cracking at the cap, separation of piles from the cap or failure of the piles. Consequently, the impacts of a berthing accident are unknown. Because Shell is required to comply with the MOTEMS, impacts are adverse, but less than significant (Class III).	III	IV	NA-III
ENVIRONMENTAL JUSTICE				
EJ-1	Continued Operation of Terminal. Overall, Project impacts would affect resources used by the entire Bay community, whether or not they are minority or low-income, and would therefore not have a disproportionate impact on a minority of low-income population. Environmental Justice impacts are considered less than significant (Class III) for all except shrimp and sport fisheries, which is Class II.	II or III	IV	NA-II or III

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